=> file hcaplus COST IN U.S. DOLLARS

FULL ESTIMATED COST

SINCE FILE TOTAL ENTRY SESSION 2.94 2.94

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FILE COVERS 1907 - 10 Dec 2007 VOL 147 ISS 25 FILE LAST UPDATED: 7 Dec 2007 (20071207/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s beta-glucan

1496636 BETA 15510 GLUCAN 4854 BETA-GLUCAN

(BETA(W)GLUCAN)

=> s complement

71149 COMPLEMENT L2

=> s antibody or monoclonal

321120 ANTIBODY 150577 MONOCLONAL

363997 ANTIBODY OR MONOCLONAL L3

=> s barley

52754 BARLEY L4

=> s 11 and 12

L5 146 L1 AND L2

=> s 11 and 12 and 14

9 L1 AND L2 AND L4

=> s 11 and 13

210 L1 AND L3

=> s 11 and 13 and 14

=> s 11 and 12 and 13

L9 48 L1 AND L2 AND L3

=> s 11 and 12 and 13 and 14

L10 4 L1 AND L2 AND L3 AND L4

=> file stnguide

COST IN U.S. DOLLARS

SINCE FILE TOTAL ENTRY SESSION

2.60

FULL ESTIMATED COST

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COST IN U.S. DOLLARS

SINCE FILE

TOTAL

5.54

ENTRY 0.06 SESSION 5.60

FULL ESTIMATED COST

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FILE COVERS 1907 - 10 Dec 2007 VOL 147 ISS 25 FILE LAST UPDATED: 7 Dec 2007 (20071207/ED)

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=> s 16 and (PY<2002 or AY<2002 or PRY<2002)

21937244 PY<2002

4193563 AY<2002

3670638 PRY<2002

L11 5 L6 AND (PY<2002 OR AY<2002 OR PRY<2002)

=> s 18 and (PY<2002 or AY<2002 or PRY<2002)

21937244 PY<2002

41.93563 AY<2002

3670638 PRY<2002

=> s 19 and (PY<2002 or AY<2002 or PRY<2002)

21937244 PY<2002 4193563 AY<2002 3670638 PRY<2002

L13 17 L9 AND (PY<2002 OR AY<2002 OR PRY<2002)

=> s 110 and (PY<2002 or AY<2002 or PRY<2002)

21937244 PY<2002 4193563 AY<2002 3670638 PRY<2002

L14 1 L10 AND (PY<2002 OR AY<2002 OR PRY<2002)

=> file stnguide

COST IN U.S. DOLLARS

SINCE FILE TOTAL ENTRY SESSION 2.60 8.20

FULL ESTIMATED COST

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=> d l14 ti abs bib YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS' - CONTINUE? (Y) /N: Y

L14 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2007 ACS on STN

Specificity of membrane complement receptor type three (CR3) for β-glucans

The binding of the iC3b receptor (CR3) to unopsonized zymosan resulted AB from CR3 attachment to cell wall β -glucans. A specificity of neutrophil responses for $\boldsymbol{\beta}$ -glucan was first suggested by a comparison of yeast (Saccharomyces cerevisiae) cell wall components for stimulation of a neutrophil superoxide burst. Three types of expts. demonstrated a role for CR3 in these responses. First, neutrophil ingestion of either yeast or yeast-derived β glucan particles was blocked by monoclonal anti-CR3, fluid-phase iC3b, or soluble β -glucan from barley. Monocyte ingestion of β -glucan particles was also blocked by anti-CR3, but not by anti-CR1 or anti-C3. Second, the neutrophil superoxide burst response to either zymosan or . beta.-glucan particles was blocked by anti-CR3 or fluid-phase iC3b, and was completely absent with neutrophils from 3 patients with an inherited deficiency of CR3. Third, CR3 was isolated from solubilized neutrophils by affinity chromatog. on β glucan-Sepharose.

AN 1987:552442 HCAPLUS <<LOGINID::20071210>>

DN 107:152442

Specificity of membrane complement receptor type three (CR3) for TI β-qlucans

Ross, Gordon D.; Cain, Judith A.; Myones, Barry L.; Newman, Simon L.; ΑU Lachmann, Peter J.

Dep. Med., Univ. North Carolina, Chapel Hill, NC, 27514, USA CS

Complement (1987), 4(2), 61-74 SO CODEN: CMPLDF; ISSN: 0253-5076

DTJournal => d lll 1-5 ti YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS' - CONTINUE? (Y)/N:y

- L11 ANSWER 1 OF 5 HCAPLUS COPYRIGHT 2007 ACS on STN Coniothyrium minitans β -(1,3) exoglucanase gene cbeG1
- L11 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2007 ACS on STN TI The β -glucan-binding lectin site of mouse CR3 (CD11b/CD18) and its function in generating a primed state of the receptor that mediates cytotoxic activation in response to iC3b-opsonized target cells
- L11 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2007 ACS on STN
 TI Analysis of the sugar specificity and molecular location of the .
 beta.-glucan-binding lectin site of complement receptor type 3 (CD11b/CD18)
- L11 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2007 ACS on STN TI Specificity of membrane complement receptor type three (CR3) for β -glucans
- L11 ANSWER 5 OF 5 HCAPLUS COPYRIGHT 2007 ACS on STN
 TI Activation of human polymorphonuclear leukocytes by particulate zymosan is related to both its major carbohydrate components: glucan and mannan

=> d lll 1-5 ti abs bib - YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS' - CONTINUE? (Y)/N:Y

- L11 ANSWER 1 OF 5 HCAPLUS COPYRIGHT 2007 ACS on STN
- TI Coniothyrium minitans β -(1,3) exoglucanase gene cbeG1
- The invention provides the nucleotide sequence of a novel β -(1,3) ΑB exoglucanase gene denoted as cbeG1 of the soil-borne fungus Coniothyrium minitans . The deduced amino acid sequence of the encoded $\beta\text{-}(1,3)$ exoglucanase enzyme, denoted CbeG1, is also provided. Encoded β -(1,3) exoglucanase CbeG1 is specific for the substrate laminarin, in that results showed no activity with other substrates tested, such as CM-cellulose, barley β -glucan, lichenan, oat spelt xylan and birchwood xylan. The pH and temperature optima for $\beta\text{-}(1,3)$ exoglucanase CbeG1 are 6.0 and 57° C., resp. CbeG1 contains 784 amino acids, and has a predicted isoelec. point (pI) of 6.0 and mol. weight of 83,646 Daltons. The invention further provides vectors and cells comprising a nucleic acid mol. encoding the cbeGl gene, and methods for producing β -(1,3) exoglucanase CbeG1. The cbeG1 gene is compatible with a eukaryotic heterologous expression system, making it particularly useful for a wide range of industrial applications, such as improvement of plant resistance to fungal phytopathogens or use in ruminant microbial transgenic strategies to improve feed digestion and nutritive carbohydrate availability from forage feed. In addition, the high activity of CbeG1 over broad pH and temperature ranges may be beneficial for use

in high temperature industrial applications, such as bleaching of pulp, which require temps. greater than 37° C. Further, CbeG1 may complement degradation initiated by endoglucanases which release oligoglucans, in that $\beta\text{-}(1,3)$ exoglucanase sequentially hydrolyzes $\beta\text{-}(1,3)$ glucan fragments and is required to hydrolyze oligoglucan fragments completely to obtain D-glucose, which can be assimilated.

- AN 2003:473330 HCAPLUS <<LOGINID::20071210>>
- DN 139:48173
- TI Coniothyrium minitans β -(1,3) exoglucanase gene cbeG1
- IN Laroche, Andre J.; Huang, Timothy Yikai; Frick, Michele M.; Lu, Zhen-Xiang; Huang, Hung Chang; Cheng, Kuo Joan
- PA Her Majesty the Queen in Right of Canada, as Represented by the Minister of Agriculture and Agrifood, Can.
- SO U.S. Pat. Appl. Publ., 43 pp. CODEN: USXXCO
- DT Patent
- LA English
- FAN. CNT 1

PA'	TENT NO.	KIND	DATE	APPLICATION NO.	DATE			
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PI US	2003115627	A1	20030619	US 2000-733643	20001208 <			
US	6734344	B2	20040511					
CA	2325774	A1	20010610	CA 2000-2325774	20001208 <			
PRAI US	1999-170168P	P	19991210	<				
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- RE.CNT 71 THERE ARE 71 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT
- L11 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2007 ACS on STN
- TI The β -glucan-binding lectin site of mouse CR3 (CD11b/CD18) and its function in generating a primed state of the receptor that mediates cytotoxic activation in response to iC3b-opsonized target cells
- Mouse leukocyte CR3 (Mac-1, $\alpha M\beta 2$ integrin) was shown to AB function as a receptor for $\beta\text{-glucans}$ in the same way as human CR3. Soluble zymosan polysaccharide (SZP) or pure β -glucans labeled with FITC or 125I bound in a saturable and reversible manner to neutrophils, macrophages, and NK cells. This lectin activity was blocked by anti-CD11b mAb M1/70 or 5C6 and did not occur with leukocytes from CR3-/-(CD11b-deficient) mice. SZP prepns. containing primarily mannose or glucose bound to CR3, and the binding of 125I-labeled $\boldsymbol{\beta}$ glucan to CR3 was competitively inhibited by $\beta\text{-glucans}$ from barley or seaweed, but not by yeast α -mannan. Also, as with human CR3, the lectin site of mouse CR3 was inhibited by $\alpha\text{-}\ \text{or}$ β -methylglucoside (but not D-glucose), α - or β -methylmannoside, and N-acetyl-D-glucosamine. Phagocytosis of zymosan and serum-opsonized zymosan was partially inhibited by anti-CR3 and was reduced to <40% of normal with leukocytes from CR3-/- mice. As with neutrophils from patients with CD18 deficiency, neutrophils from CR3-/- mice exhibited no phagocytosis of particulate β glucan. SZP or β -glucans primed CR3 of neutrophils, macrophages, and NK cells for cytotoxicity of iC3b-opsonized tumor cells that otherwise did not trigger killing. β -Glucan priming for cytotoxicity was inhibited by anti-CR3 and did not occur with leukocytes from CR3-/- mice. The primed state of macrophage and NK cell CR3 remained detectable for 18 to 24 h after pulsing with β -glucans. The similarity of mouse and human CR3 in response to β -glucans highlights the utility of mouse tumor models for development of therapeutic β -glucans.
- AN 1999:107663 HCAPLUS <<LOGINID::20071210>>
- DN 130:280682
- TI The β -glucan-binding lectin site of mouse CR3 (CD11b/CD18) and its function in generating a primed state of the receptor that mediates cytotoxic activation in response to iC3b-opsonized target cells
- AU Xia, Yu; Vetvicka, Viclav; Yan, Jun; Hanikyrova, Margareta; Mayadas, Tanya; Ross, Gordon D.
- CS Division of Experimental Immunology and Immunopathology, Department of Pathology, and Department of Microbiology and Immunology, University of Louisville, Louisville, KY, 40292, USA
- SO Journal of Immunology (1999), 162(4), 2281-2290

CODEN: JOIMA3; ISSN: 0022-1767

PB American Association of Immunologists

DT Journal

LA English

RE.CNT 83 THERE ARE 83 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

- L11 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2007 ACS on STN
- TI Analysis of the sugar specificity and molecular location of the . beta.-glucan-binding lectin site of complement receptor type 3 (CD11b/CD18)
- AB Zymosan, the cell wall from Saccharomyces cerevisiae, was reported to be a macrophage activator through its β -glycan over 30 yr ago. Nevertheless, the identity of the β -glucan receptor has been controversial. This study showed that the $\alpha M\beta 2$ -integrin, CR3 (Mac-1, CD11b/CD18) served as the . beta.-glucan receptor through one or more lectin sites located outside of the CD11b I-domain that contains the binding sites for iC3b, ICAM-1, and fibrinogen. Sugar specificity, analyzed with FITC-labeled soluble polysaccharides and flow cytometry, showed CR3-specific staining with several pure $\beta\text{-glucans}$ but not with $\alpha\text{-mannan}.$ However, a 10-kDa soluble zymosan polysaccharide (SZP) with high affinity (6.7+10-8M) for CR3 consisted largely of mannose and .apprx.5% glucose. Binding of either SZP-FITC or β -glucan -FITC to CR3 was blocked not only by pure β -glucans from yeast, mushroom, seaweed, or barley, but also by N-acetyl-D-glucosamine (NADG), $\alpha\text{-}$ or $\beta\text{-methylmannoside},$ and $\alpha\text{-}$ or β -methylglucoside. SZP-FITC and β -glucan -FITC stained all leukocyte types similarly to anti-CR3-FITC, and polysaccharide-FITC staining was inhibited ≥95% by unlabeled anti-CR3. SZP-FITC staining of cells expressing recombinant chimeras between CR3 and CR4 (p150,95, CD11c/CD18) suggested that both the divalent cation-binding region of CD11b and the region C-terminal to it may regulate binding of polysaccharides to CR3. Unlabeled SZP or . beta.-glucan also blocked CR3 staining by 11 mAb to C-terminal domain epitopes of CD11b but had no effect on staining by mAb directed to the 1-domain. In conclusion, CR3 serves as the leukocyte .

with certain polysaccharides containing mannose or NADG, as well as glucose. AN 1996:63811 HCAPLUS <<LOGINID::20071210>>

DN 124:114996

- TI Analysis of the sugar specificity and molecular location of the . beta.-glucan-binding lectin site of complement receptor type 3 (CD11b/CD18)
- AU Thornton, Brian P.; Vetvicka, Vaclav; Pitman, Mark; Goldman, Robert C.; Ross, Gordon D.

lectin site located C-terminal to the 1-domain of CD11b. Its sugar specificity is broader than originally appreciated, allowing it to react

CS Dep. Pathol., Univ. Louisville, Louisville, KY, 40292, USA

beta.-glucan receptor through a cation-independent

- SO Journal of Immunology (1996), 156(3), 1235-46 CODEN: JOIMA3; ISSN: 0022-1767
- PB American Association of Immunologists
- DT Journal
- LA English
- L11 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2007 ACS on STN
- TI Specificity of membrane complement receptor type three (CR3) for β -glucans
- AB The binding of the iC3b receptor (CR3) to unopsonized zymosan resulted from CR3 attachment to cell wall β -glucans. A specificity of neutrophil responses for β -glucan was first suggested by a comparison of yeast (Saccharomyces cerevisiae) cell wall components for stimulation of a neutrophil superoxide burst. Three types of expts. demonstrated a role for CR3 in these responses. First,

neutrophil ingestion of either yeast or yeast-derived β -glucan particles was blocked by monoclonal anti-CR3, fluid-phase iC3b, or soluble β -glucan from barley. Monocyte ingestion of β -glucan particles was also blocked by anti-CR3, but not by anti-CR1 or anti-C3. Second, the neutrophil superoxide burst response to either zymosan or .beta .-glucan particles was blocked by anti-CR3 or fluid-phase iC3b, and was completely absent with neutrophils from 3 patients with an inherited deficiency of CR3. Third, CR3 was isolated from solubilized neutrophils by affinity chromatog. on β -glucan -Sepharose.

AN 1987:552442 HCAPLUS <<LOGINID::20071210>>

DN 107:152442

- TI Specificity of membrane complement receptor type three (CR3) for β -glucans
- AU Ross, Gordon D.; Cain, Judith A.; Myones, Barry L.; Newman, Simon L.; Lachmann, Peter J.
- CS Dep. Med., Univ. North Carolina, Chapel Hill, NC, 27514, USA
- SO Complement (1987), 4(2), 61-74 CODEN: CMPLDF; ISSN: 0253-5076
- DT Journal
- · LA English
- L11 ANSWER 5 OF 5 HCAPLUS COPYRIGHT 2007 ACS on STN
- TI Activation of human polymorphonuclear leukocytes by particulate zymosan is related to both its major carbohydrate components: glucan and mannan
- Unopsonized particulate zymosan and its major carbohydrate component AB glucan were phagocytosed under serum-free conditions by adherent polymorphonuclear leukocytes (PMN) in a dose- and time-dependent manner. Preincubation of PMN monolayers with mannan did not cause a reduction in the phagocytosis of either particle. The phagocytic response was inhibited by preincubation of the cells with trypsin at a concentration that did not inhibit the phagocytosis of sheep erythrocytes coated with IgG or of latex. particles. Homol. of the recognition mechanisms for glucan and zymosan was confirmed when cells cultured on fixed glucan or on fixed zymosan failed to ingest either particle to more than 40% of control phagocytosis. Similarly, zymosan and glucan activated PMN in suspension, in a dose- and time-dependent manner, to generate reactive O species which were measured as luminol-dependent chemiluminescence (CL). There was however, a 4-fold greater CL response to zymosan. Preincubation of PMN with mannan resulted in a decreased CL response to zymosan, while the response to glucan was The CL response was also sensitive to a range of concns. of unaffected. trypsin. In contrast, 2 other complex polysaccharide particles (barley-derived β -glucan and algae-derived laminarin) were not phagocytosed by PMN, nor did they cause the generation of CL, despite the fact that they possessed the capacity, in common with zymosan and glucan, to activate the alternative pathway of The identification of a trypsin-sensitive recognition complement. mechanism on the surface of human PMN for unopsonized zymosan and glucan represents a response not hitherto characterized. Furthermore, the phagocytosis of unopsonized zymosan by human PMN is dependent primarily on its glucan content, but its capacity to activate the respiratory burst may involve mannan and the recruitment of a second cell surface recognition mechanism.
- AN 1986:404970 HCAPLUS <<LOGINID::20071210>>
- DN 105:4970
- TI Activation of human polymorphonuclear leukocytes by particulate zymosan is related to both its major carbohydrate components: glucan and mannan
- AU Williams, J. D.; Topley, N.; Alobaidi, H. M.; Harber, M. J.
- CS KRUF Inst., R. Infirm., Cardiff, UK
- SO Immunology (1986), 58(1), 117-24 CODEN: IMMUAM; ISSN: 0019-2805
- DT Journal
- LA English

=> d l12 1-9 ti YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS' - CONTINUE? (Y)/N:y

- L12 ANSWER 1 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN TI The location of (1-3)- β -glucan in the nucellar projection and in the vascular tissue of the crease in developing barley grain using a (1-3)- β -glucan -specific monoclonal antibody
- L12 ANSWER 2 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN

 TI Immunocytochemical location of the (1→3) (1→4)- .beta
 .-glucan lichenin in the lichen-forming ascomycete Cetraria
 islandica (Icelandic moss)
- L12 ANSWER 3 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN Purification and characterization of a (1 \rightarrow 3)- β -D-glucan-binding protein from horseshoe crab (Tachypleus tridentatus) amoebocytes

A ...

- L12 ANSWER 4 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN Purification and characterization of $(1\rightarrow 3, 1\rightarrow 4)$ -. beta.-glucan endohydrolases from germinated wheat (Triticum aestivum)
- L12 ANSWER 5 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN TI Development and regulation of (1 \rightarrow 3,1 \rightarrow 4)- β glucan endohydrolases in germinating wheat (Triticum aestivum)
- L12 ANSWER 6 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN TI—Identification of individual $(1\rightarrow 3, 1\rightarrow 4)$ = β -D-glucanase isoenzymes in extracts of germinated barley using specific monoclonal antibodies
- L12 ANSWER 7 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN TI Specificity of membrane complement receptor type three (CR3) for β -glucans
- L12 ANSWER 8 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN TI Visualization of α -amylase movement and cell wall breakdown during barley malting - practical application of current research
- L12 ANSWER 9 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN TI Cross reactions of polyglucoses in antipneumococcal serums. VI. Precipitation of type VIII and type III antiserums by β -glucans

=> d l12 d his
'D' IS NOT VALID HERE
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=> d his

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17 S L1 AND L3 AND L4 rs48 S L1 AND L2 AND L3 L9 4 S L1 AND L2 AND L3 AND L4 L10 FILE 'STNGUIDE' ENTERED AT 16:11:12 ON 10 DEC 2007 FILE 'HCAPLUS' ENTERED AT 16:11:58 ON 10 DEC 2007 5 S L6 AND (PY<2002 OR AY<2002 OR PRY<2002) L119 S L8 AND (PY<2002 OR AY<2002 OR PRY<2002) L12 17 S L9 AND (PY<2002 OR AY<2002 OR PRY<2002) L13 1 S L10 AND (PY<2002 OR AY<2002 OR PRY<2002) L14 FILE 'STNGUIDE' ENTERED AT 16:12:11 ON 10 DEC 2007 FILE 'HCAPLUS' ENTERED AT 16:12:19 ON 10 DEC 2007 FILE 'STNGUIDE' ENTERED AT 16:12:20 ON 10 DEC 2007 FILE 'HCAPLUS' ENTERED AT 16:12:51 ON 10 DEC 2007 FILE 'STNGUIDE' ENTERED AT 16:12:52 ON 10 DEC 2007

210 S L1 AND L3

L7

FILE 'HCAPLUS' ENTERED AT 16:13:10 ON 10 DEC 2007

FILE 'STNGUIDE' ENTERED AT 16:13:10 ON 10 DEC 2007
FILE 'HCAPLUS' ENTERED AT 16:13:26 ON 10 DEC 2007

FILE 'STNGUIDE' ENTERED AT 16:13:26 ON 10 DEC 2007

=> file hcaplus SINCE FILE TOTAL COST IN U.S. DOLLARS ENTRY SESSION 0.24 40.82 FULL ESTIMATED COST SINCE FILE DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) TOTAL ENTRY SESSION 0.00 -4.68 CA SUBSCRIBER PRICE

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=> s (cancer or tumor or neoplas?)
       339575 CANCER
       432104 TUMOR
       520672 NEOPLAS?
       795839 (CANCER OR TUMOR OR NEOPLAS?)
L15
=> s 115 and 15
L16 57 L15 AND L5
=> s 115 and 111
L17 1 L15 AND L11
=> s 115 and 17
L18 57 L15 AND L7
=> s 115 and 112
L19 0.L15 AND L12
=> s 115 and 113
L20 6 L15 AND L13
=> s 115 and 114
L21 0 L15 AND L14
=> s 116 and (PY<2002 or AY<2002 or PRY<2002)
     21937244 PY<2002
      4193563 AY<2002
      3670638 PRY<2002
          29 L16 AND (PY<2002 OR AY<2002 OR PRY<2002)
L22
=> s 117 and (PY<2002 or AY<2002 or PRY<2002)
     21937244 PY<2002
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           1 L17 AND (PY<2002 OR AY<2002 OR PRY<2002)
L23
=> file stnguide
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COST IN U.S. DOLLARS
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FULL ESTIMATED COST
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)
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                                                 ENTRY SESSION
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L17 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2007 ACS on STN TI The β -glucan-binding lectin site of mouse CR3 (CD11b/CD18) and its function in generating a primed state of the receptor that mediates cytotoxic activation in response to iC3b-opsonized target cells

=> d 117 ti abs bib
YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS' - CONTINUE? (Y)/N:y

L17 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2007 ACS on STN TI The β -glucan-binding lectin site of mouse CR3 (CD11b/CD18) and its function in generating a primed state of the receptor

that mediates cytotoxic activation in response to iC3b-opsonized target

cells

- Mouse leukocyte CR3 (Mac-1, $\alpha M\beta 2$ integrin) was shown to AB function as a receptor for $\beta\text{-glucans}$ in the same way as human CR3. Soluble zymosan polysaccharide (SZP) or pure β -glucans labeled with FITC or 125I bound in a saturable and reversible manner to neutrophils, macrophages, and NK cells. This lectin activity was blocked by anti-CD11b mAb M1/70 or 5C6 and did not occur with leukocytes from CR3-/-(CD11b-deficient) mice. SZP prepns. containing primarily mannose or glucose bound to CR3, and the binding of 125I-labeled $\boldsymbol{\beta}$ glucan to CR3 was competitively inhibited by $\beta\text{-glucans}$ from barley or seaweed, but not by yeast α -mannan. Also, as with human CR3, the lectin site of mouse CR3 was inhibited by $\alpha\text{-}\ \text{or}$ β -methylglucoside (but not D-glucose), α - or β -methylmannoside, and N-acetyl-D-glucosamine. Phagocytosis of zymosan and serum-opsonized zymosan was partially inhibited by anti-CR3 and was reduced to <40% of normal with leukocytes from CR3-/- mice. As with neutrophils from patients with CD18 deficiency, neutrophils from CR3-/- mice exhibited no phagocytosis of particulate β glucan. SZP or β -glucans primed CR3 of neutrophils, macrophages, and NK cells for cytotoxicity of iC3b-opsonized tumor cells that otherwise did not trigger killing. β -Glucan priming for cytotoxicity was inhibited by anti-CR3 and did not occur with leukocytes from CR3-/- mice. The primed state of macrophage and NK cell CR3 remained detectable for 18 to 24 h after pulsing with β -glucans. The similarity of mouse and human CR3 in response to β-glucans highlights the utility of mouse tumor models for development of therapeutic β -glucans.
- AN 1999:107663 HCAPLUS <<LOGINID::20071210>>

DN 130:280682

- TI The β -glucan-binding lectin site of mouse CR3 (CD11b/CD18) and its function in generating a primed state of the receptor that mediates cytotoxic activation in response to iC3b-opsonized target cells
- AU Xia, Yu; Vetvicka, Viclav; Yan, Jun; Hanikyrova, Margareta; Mayadas, Tanya; Ross, Gordon D.
- CS Division of Experimental Immunology and Immunopathology, Department of Pathology, and Department of Microbiology and Immunology, University of Louisville, Louisville, KY, 40292, USA
- SO Journal of Immunology (1999), 162(4), 2281-2290 CODEN: JOIMA3; ISSN: 0022-1767
- PB American Association of Immunologists
- DT Journal
- LA English
- RE.CNT 83 THERE ARE 83 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

```
ANSWER 1 OF 6 HCAPLUS COPYRIGHT 2007 ACS on STN
     Antitumor antibody-enhancing glucan
AB
     This invention provides a composition comprising an effective amount of glucan
     capable of enhancing efficacy of antibodies. This invention further
     provides the above compns. and a pharmaceutically acceptable carrier.
     This invention also provides a method for treating a subject with
     cancer comprising administrating the above-described composition
     comprising effective amount of glucan capable of enhancing efficacy of
     vaccines. This invention provides a composition comprising effective amount of
     glucan capable of enhancing efficacy of vaccines. This invention also provides a method of treating a subject comprising administrating the
     above pharmaceutical composition to the subject. This invention provides a
     composition comprising effective amount of glucan capable of enhancing efficacy
     of natural antibodies. This invention provides a composition comprising
     effective amount of glucan capable of enhancing host immunity. This
     invention also provides a composition comprising effective amount of glucan
     capable of enhancing the action of an agent in preventing tissue
     rejection. It was shown that \beta-glucans greatly enhanced the
     antitumor effects of monoclonal antibodies against established
     tumors in mice.
ΑN
     2002:574940 HCAPLUS <<LOGINID::20071210>>
DN
     137:119657
ΤI
     Antitumor antibody-enhancing glucan
IN
     Cheung, Nai-Kong V.
PA
     Sloan-Kettering Institute for Cancer Research, USA
so
     PCT Int. Appl., 114 pp.
     CODEN: PIXXD2
DT
     Patent
LA
     English
FAN.CNT 3
                               DATE
                                                                 DATE
     PATENT NO.
                        KIND
                                          APPLICATION NO.
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     WO 2002058711
                         A1
                               20020801
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                                                                  20020115 <--
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     US 2006160766
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                               20060720
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PRAI US 2001-261911P
    WO 2002-US1276
                         W
                               20020115
     US 2003-621027
                         A1
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                         A2
    WO 2004-US23099
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    US 2005-218044
                         A2
                               20050831
RE.CNT 2
             THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
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ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L20 ANSWER 2 OF 6 HCAPLUS COPYRIGHT 2007 ACS on STN
TI Clostridial neurotoxin targeted conjugates for inhibition of secretion from non-neuronal cells
AB A method of treatment of disease by inhibition of cellular secretory processes is provided. The method has particular application in the
```

processes is provided. The method has particular application in the treatment of diseases dependent on the exocytotic activity of endocrine cells, exocrine cells, inflammatory cells, cells of the immune system, cells of the cardiovascular system, and bone cells. Agents and compns. therefor, as well as methods for manufacturing these agents and compns., are provided. In a preferred embodiment a clostridial neurotoxin, substantially devoid of holotoxin binding affinity for neuronal cells of the presynaptic muscular junction, is associated with a targeting moiety. The targeting moiety is selected such that the clostridial toxin conjugate so formed may be directed to a non-neuronal target cell to which the conjugate may bind. Following binding, a neurotoxin component of the conjugate, which is capable of inhibition of cellular secretion, passes into the cytosol of the target cell by cellular internalization mechanisms. Thereafter, inhibition of secretion from the target cell is effected.

AN 2001:228744 HCAPLUS <<LOGINID::20071210>>

DN 134:247267

TI Clostridial neurotoxin targeted conjugates for inhibition of secretion from non-neuronal cells

PA Microbiological Research Authority, UK

SO PCT Int. Appl., 63 pp. CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

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	US.	2003	1802	89		A1		2003	0925		US 2002-88665					20020814 <				
	AU	2005	2273	83		`A1		2005	1124		AU 2	005-	2273	83		2	0051	027	<	
	US	2006	2162	83		Al		2006	0928		US 2	006-	3278	55		2	0060	109	<	
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	US	2002	-886	65		A1		2002	0814											

L20 ANSWER 3 OF 6 HCAPLUS COPYRIGHT 2007 ACS on STN

TI Immunopharmacological and immunotoxicological activities of a water-soluble (1 \rightarrow 3)- β -D-glucan, CSBG from Candida spp

AB We have established a convenient, two-step procedure to solubilize the yeast cell wall $(1\rightarrow 3)$ - β -D-glucan using the combination of

NaClO oxidation and DMSO extraction Candida soluble $\beta\text{-D-glucan}$ (CSBG) was mainly composed of a linear $\beta\text{-1,3}$ glucan with a linear $\beta\text{-1,6-glucan}$ moiety. In this study, we screened for several immunopharmacol. activities of CSBG and found the following activities: (1) interleukin-6 synthesis of macrophages in vitro; (2) antagonistic effect for zymosan mediated-tumor necrosis factor synthesis of macrophages; (3) augmentation for lipopolysaccharide mediated tumor necrosis factor and nitrogen oxide syntheses of macrophages; (4) activation of alternative pathway of complement; (5) hematopoietic response on cyclophosphamide induced leukopenia; (6) the antitumor effect on ascites form tumor; (7) Enhanced vascular permeability; (8) priming effect on lipopolysaccharide triggered TNF- α synthesis; and (9) adjuvant effect on antibody production These results strongly suggested that CSBG possessed various immunopharmacol. activity.

- AN 2000:235041 HCAPLUS <<LOGINID::20071210>>
- DN 133:12504
- TI Immunopharmacological and immunotoxicological activities of a water-soluble (1 \rightarrow 3)- β -D-glucan, CSBG from Candida spp
- AU Tokunaka, Kazuhiro; Ohno, Naohito; Adachi, Yoshiyuki; Tanaka, Shigenori; Tamura, Hiroshi; Yadomae, Toshiro
- CS Laboratory for Immunopharmacology of Microbial Products, School of Pharmacy, Tokyo University of Pharmacy and Life Science, Tokyo, 192-0392, Japan
- SO International Journal of Immunopharmacology (2000), 22(5), 383-394
 CODEN: IJIMDS; ISSN: 0192-0561
 - Elsevier Science Ltd.
- DT Journal

PB

- LA English
- RE.CNT 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT .
- L20 ANSWER 4 OF 6 HCAPLUS COPYRIGHT 2007 ACS on STN
- TI Interactions of Penicillium marneffei with human leukocytes in vitro
- AΒ Penicillium marneffei, a dimorphic fungus endemic in parts of Asia, causes disease in those with impaired cell-mediated immunity, especially persons with AIDS. The histopathol. of penicilliosis marneffei features the intracellular infection of macrophages. The authors studied the interactions between human leukocytes and heat-killed yeast-phase P. marneffei. Monocyte-derived macrophages bound and internalized P. marneffei in the presence of complement-sufficient pooled human serum (PHS). Binding and phagocytosis were still seen if PHS was heat inactivated or omitted altogether. The binding of unopsonized P. marneffei to monocyte-derived macrophages occurred in the absence of divalent cations and was not affected by inhibitors of mannose and . beta.-glucan receptors or monoclonal antibodies directed against CD14 and CD11/CD18. Binding was profoundly inhibited by wheat germ agglutinin. A vigorous respiratory burst was seen in peripheral blood mononuclear cells (PBMC) stimulated with P. marneffei, regardless of whether the fungi were opsonized. However, tumor necrosis factor alpha (TNF- α) release from PBMC stimulated with P. marneffei occurred only if serum was present. These data demonstrate that (i) monocyte-derived macrophages bind and phagocytose P. marneffei even in the absence of opsonization, (ii) binding is divalent cation independent but is inhibited by wheat germ agglutinin, suggesting that the major receptor(s) recognizing P. marneffei is a glycoprotein with exposed N-acetyl- β -D-glucosaminyl groups, (iii) P. marneffei stimulates the respiratory burst regardless of whether opsonins are present, and (iv) serum factors are required for P. marneffei to stimulate $TNF-\alpha$ release. The ability of unopsonized P. marneffei to parasitize mononuclear phagocytes without stimulating the production of TNF- α may be critical for the virulence of this intracellular parasite.

- DN 131:285214
- TI Interactions of Penicillium marneffei with human leukocytes in vitro
- AU Rongrungruang, Yong; Levitz, Stuart M.
- CS The Evans Memorial Department of Clinical Research and the Department of Medicine, Boston University School of Medicine, Boston, MA, 02118, USA
- SO Infection and Immunity (1999), 67(9), 4732-4736 CODEN: INFIBR; ISSN: 0019-9567
- PB American Society for Microbiology
- DT Journal
- LA English
- RE.CNT 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT
- L20 ANSWER 5 OF 6 HCAPLUS COPYRIGHT 2007 ACS on STN
- TI Effect of lentinan and mannan on phagocytosis of fluorescent latex microbeads by mouse peritoneal macrophages: a flow cytometric study
- Lentinan, an immunopotentiating β -1,3-glucan polysaccharide stimuated AB the in vitro phagocytosis of BSA-coated, C3b- or monoclonal immunoglobuin (IgG2b)-coated fluorescent microspheres by resident or thioglycollate-elicited mouse macrophages in the dose-dependent manner. Anal. of flow cytometric data has shown that microbead phagocytosis of resident macrophages, which exhibit a lower basic phagocytic activity than the thioglycollate elicited ones, has been augmented by up to 900% due to lentinan. The percent ratio of phagocytes among peritoneal exudate cells, however, remained unchanged after short-term lentinan stimulation. Preincubation of the cells with lentinan resulted in increased ingestion of the microbeads. Activation of phagocytosis by lentinan is therefore due in part to the direct stimulation of the cells, however, lentinan also serves as supplementary opsonin for complement C3b-coated beads. Mannan inhibited the ingestion of C3b-coated microspheres by 75%, which was abolished in part when lentinan was also added to the cells. Mannan did not influence the phagocytosis of BSA-coated or IgG-coated beads. These data, based solely on in vitro studies, suggest a β glucan receptor mediated activation of phagocytes by lentinan. These receptors are different from the C3b, Fc or mannose receptors. is very likely that stimulation of phagocytic activity of macrophages by lentinan may contribute to the antitumor action of this immunopotentiating polysaccharide.
- AN 1989:630536 HCAPLUS <<LOGINID::20071210>>
- DN 111:230536
- TI Effect of lentinan and mannan on phagocytosis of fluorescent latex microbeads by mouse peritoneal macrophages: a flow cytometric study
- AU Abel, Gyorgy; Szollosi, Janos; Chihara, Goro; Fachet, Jozsef
- CS Inst. Pathophysiol., Univ. Med. Sch., Debrecen, Hung.
- SO International Journal of Immunopharmacology (1989), 11(6), 615-21
 - CODEN: IJIMDS; ISSN: 0192-0561
- DT Journal
- LA English
- L20 ANSWER 6 OF 6 HCAPLUS COPYRIGHT 2007 ACS on STN
- TI Antitumor and immunomodulating activities of a β glucan obtained from liquid-cultured Grifola frondosa
- The effects of the β -1,3-glucan, LELFD, obtained from liquid-cultured mycelium of G. frondosa, on the growth of syngeneic tumors and immune responses in mice were examined. In Meth A fibrosarcoma or IMC carcinoma solid tumor systems, LELFD administered i.p. or intralesionally (i.l.) exhibited significant antitumor effects. However, the growth of L1210 and P388 leukemias was unaffected by the injection of LELFD. The injection of LELFD i.p. enhanced the activities of natural killer cells and macrophages in mice. LELFD also enhanced the antibody response when it was injected i.p. with sheep red blood cells into mice. Furthermore, it was found that LELFD could activate complement pathway.

```
1989:185485 HCAPLUS <<LOGINID::20071210>>
ΑN
DN
TI
     Antitumor and immunomodulating activities of a \beta -
     glucan obtained from liquid-cultured Grifola frondosa
AU
     Suzuki, Iwao; Hashimoto, Koichi; Oikawa, Shozo; Sato, Kichiro; Osawa,
     Masumi; Yadomae, Toshiro
     Tokyo Coll. Pharm., Hachioji, 192-03, Japan
CS
     Chemical & Pharmaceutical Bulletin (1989), 37(2), 410-13
SO
     CODEN: CPBTAL; ISSN: 0009-2363
DT
     Journal
     English
LA
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L3
          52754 S BARLEY
L4
L5
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L6
             9 S L1 AND L2 AND L4
L7 .
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COST IN U.S. DOLLARS

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FULL ESTIMATED COST

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52754 BARLEY

19192 OAT

- 133570-WHEAT

7925 MOSS

L24 191167 BARLEY OR OAT OR WHEAT OR MOSS

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LAST RELOADED: Dec 7, 2007 (20071207/UP).

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- L30 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2007 ACS on STN
- TI Clostridial neurotoxin targeted conjugates for inhibition of secretion from non-neuronal cells
- A method of treatment of disease by inhibition of cellular secretory AB processes is provided. The method has particular application in the treatment of diseases dependent on the exocytotic activity of endocrine cells, exocrine cells, inflammatory cells, cells of the immune system, cells of the cardiovascular system, and bone cells. Agents and compns. therefor, as well as methods for manufacturing these agents and compns., are provided. In a preferred embodiment a clostridial neurotoxin, substantially devoid of holotoxin binding affinity for neuronal cells of the presynaptic muscular junction, is associated with a targeting moiety. The targeting moiety is selected such that the clostridial toxin conjugate so formed may be directed to a non-neuronal target cell to which the conjugate may bind. Following binding, a neurotoxin component of the conjugate, which is capable of inhibition of cellular secretion, passes into the cytosol of the target cell by cellular internalization mechanisms. Thereafter, inhibition of secretion from the target cell is effected.
- AN 2001:228744 HCAPLUS <<LOGINID::20071210>>
- DN 134:247267
- TI Clostridial neurotoxin targeted conjugates for inhibition of secretion from non-neuronal cells
- IN Foster, Keith Alan; Chaddock, John Andrew; Purkiss, John Robert; Quinn, Conrad Padraig
- PA Microbiological Research Authority, UK

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PCT Int. Appl., 63 pp.
     CODEN: PIXXD2
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     English
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                                 20030925
                                             US 2002-88665
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                                 20051124
                                             AU 2005-227383
     AU 2005227383
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     US 2006216283
                          A1
PRAI GB 1999-22554
                          Α
                                 19990923
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     WO 2000-GB3669
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     WO 2000-GB3681
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                                 20000925
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     US 2002-88665
                          A1
L30 ANSWER 2 OF 3 HCAPLUS - COPYRIGHT 2007 ACS on STN
     Interactions of Penicillium marneffei with human leukocytes in vitro
TI
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AB Penicillium marneffei, a dimorphic fungus endemic in parts of Asia, causes disease in those with impaired cell-mediated immunity, especially persons with AIDS. The histopathol. of penicilliosis marneffei features the intracellular infection of macrophages. The authors studied the interactions between human leukocytes and heat-killed yeast-phase P. marneffei. Monocyte-derived macrophages bound and internalized P. marneffei in the presence of complement-sufficient pooled human serum (PHS). Binding and phagocytosis were still seen if PHS was heat inactivated or omitted altogether. The binding of unopsonized P. marneffei to monocyte-derived macrophages occurred in the absence of divalent cations and was not affected by inhibitors of mannose and . beta.-glucan receptors or monoclonal antibodies directed against CD14 and CD11/CD18. Binding was profoundly inhibited by wheat germ agglutinin. A vigorous respiratory burst was seen in peripheral blood mononuclear cells (PBMC) stimulated with P. marneffei, regardless of whether the fungi were opsonized. However, tumor necrosis factor alpha (TNF- α) release from PBMC stimulated with P. marneffei occurred only if serum was present. These data demonstrate that (i) monocyte-derived macrophages bind and phagocytose P. marneffei even in the absence of opsonization, (ii) binding is divalent cation independent but is inhibited by wheat germ agglutinin, suggesting that the major receptor(s) recognizing P. marneffei is a glycoprotein with exposed N-acetyl- β -D-glucosaminyl groups, (iii) P. marneffei stimulates the respiratory burst regardless of whether opsonins are present, and (iv) serum factors are required for P. marneffei to stimulate $TNF-\alpha$ release. The ability of unopsonized P. marneffei to parasitize mononuclear phagocytes without stimulating the production of TNF- α may be critical for the virulence of this intracellular parasite. 1999:554591 HCAPLUS <<LOGINID::20071210>>

AN 1999:554591 NCAPEOS CELOGINID..2007121072

DN 131:285214

- TI Interactions of Penicillium marneffei with human leukocytes in vitro
- AU Rongrungruang, Yong; Levitz, Stuart M.
- CS The Evans Memorial Department of Clinical Research and the Department of Medicine, Boston University School of Medicine, Boston, MA, 02118, USA
- SO Infection and Immunity (1999), 67(9), 4732-4736 CODEN: INFIBR; ISSN: 0019-9567
- PB American Society for Microbiology
- DT Journal
- LA English
- RE.CNT 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT
- L30 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2007 ACS on STN
- TI The β -glucan-binding lectin site of mouse CR3

 (CD11b/CD18) and its function in generating a primed state of the receptor that mediates cytotoxic activation in response to iC3b-opsonized target cells
- Mouse leukocyte CR3 (Mac-1, $\alpha M\beta 2$ integrin) was shown to ABfunction as a receptor for β -glucans in the same way as human CR3. Soluble zymosan polysaccharide (SZP) or pure β -glucans labeled with FITC or 125I bound in a saturable and reversible manner to neutrophils, macrophages, and NK cells. This lectin activity was blocked by anti-CD11b mAb M1/70 or 5C6 and did not occur with leukocytes from CR3-/-(CD11b-deficient) mice. SZP prepns. containing primarily mannose or glucose bound to CR3, and the binding of 125I-labeled β glucan to CR3 was competitively inhibited by β -glucans from barley or seaweed, but not by yeast $\alpha\text{-mannan}. \ \ \, \text{Also, as with}$ human CR3, the lectin site of mouse CR3 was inhibited by α - or $\beta\text{-methylglucoside}$ (but not D-glucose), $\alpha\text{-}$ or β-methylmannoside, and N-acetyl-D-glucosamine. Phagocytosis of zymosan and serum-opsonized zymosan was partially inhibited by anti-CR3 and was reduced to <40% of normal with leukocytes from CR3-/- mice. As with neutrophils from patients with CD18 deficiency, neutrophils from CR3-/- mice exhibited no phagocytosis of particulate β glucan. SZP or β -glucans primed CR3 of neutrophils, macrophages, and NK cells for cytotoxicity of iC3b-opsonized tumor cells that otherwise did not trigger killing. β -Glucan priming for cytotoxicity was inhibited by anti-CR3 and did not occur with leukocytes from CR3-/- mice. The primed state of macrophage and NK cell CR3 remained detectable for 18 to 24 h after pulsing with $\beta\text{-glucans}.$ The similarity of mouse and human CR3 in response to β-glucans highlights the utility of mouse tumor models for development of therapeutic β -glucans.
- AN 1999:107663 HCAPLUS <<LOGINID::20071210>>
- DN 130:280682
- TI The β -glucan-binding lectin site of mouse CR3 (CD11b/CD18) and its function in generating a primed state of the receptor that mediates cytotoxic activation in response to iC3b-opsonized target cells
- AU Xia, Yu; Vetvicka, Viclav; Yan, Jun; Hanikyrova, Margareta; Mayadas, Tanya; Ross, Gordon D.
- CS Division of Experimental Immunology and Immunopathology, Department of Pathology, and Department of Microbiology and Immunology, University of Louisville, Louisville, KY, 40292, USA
- SO Journal of Immunology (1999), 162(4), 2281-2290 CODEN: JOIMA3; ISSN: 0022-1767
- PB American Association of Immunologists
- DT Journal
- LA English
- RE.CNT 83 THERE ARE 83 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

- L32 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2007 ACS on STN
- Clostridial neurotoxin targeted conjugates for inhibition of secretion from non-neuronal cells
- A method of treatment of disease by inhibition of cellular secretory AB processes is provided. The method has particular application in the treatment of diseases dependent on the exocytotic activity of endocrine cells, exocrine cells, inflammatory cells, cells of the immune system, cells of the cardiovascular system, and bone cells. Agents and compns. therefor, as well as methods for manufacturing these agents and compns., are provided. In a preferred embodiment a clostridial neurotoxin, substantially devoid of holotoxin binding affinity for neuronal cells of the presynaptic muscular junction, is associated with a targeting moiety. The targeting moiety is selected such that the clostridial toxin conjugate so formed may be directed to a non-newronal target cell to which the conjugate may bind. Following binding, a neurotoxin component of the conjugate, which is capable of inhibition of cellular secretion, passes into the cytosol of the target cell by cellular internalization mechanisms. Thereafter, inhibition of secretion from the target cell is effected.
- AN
- DN 134:247267
- TI Clostridial neurotoxin targeted conjugates for inhibition of secretion from non-neuronal cells
- Foster, Keith Alan; Chaddock, John Andrew; Purkiss, John Robert; Quinn, IN Conrad Padraig

9 - - - - - - -

- Microbiological Research Authority, UK PA
- so PCT Int. Appl., 63 pp. CODEN: PIXXD2
- DT Patent
- English LA

FAN.CNT 1																			
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	AU	782457				B2	20050728			AU 2000-74365						20000925 <			
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	US	US 2002-88665 A1 20020814					0814												

- L32 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2007 ACS on STN
- TI Interactions of Penicillium marneffei with human leukocytes in vitro

Penicillium marneffei, a dimorphic fungus endemic in parts of Asia, causes disease in those with impaired cell-mediated immunity, especially persons with The histopathol. of penicilliosis marneffei features the intracellular infection of macrophages. The authors studied the interactions between human leukocytes and heat-killed yeast-phase P. marneffei. Monocyte-derived macrophages bound and internalized P. marneffei in the presence of complement-sufficient pooled human serum (PHS). Binding and phagocytosis were still seen if PHS was heat inactivated or omitted altogether. The binding of unopsonized P. marneffei to monocyte-derived macrophages occurred in the absence of divalent cations and was not affected by inhibitors of mannose and . beta.-glucan receptors or monoclonal antibodies directed against CD14 and CD11/CD18. Binding was profoundly inhibited by wheat germ agglutinin. A vigorous respiratory burst was seen in peripheral blood mononuclear cells (PBMC) stimulated with P. marneffei, regardless of whether the fungi were opsonized. However, tumor necrosis factor alpha (TNF- α) release from PBMC stimulated with P. marneffei occurred only if serum was present. These data demonstrate that (i) monocyte-derived macrophages bind and phagocytose P. marneffei even in the absence of opsonization, (ii) binding is divalent cation independent but is inhibited by wheat germ agglutinin, suggesting that the major receptor(s) recognizing P. marneffei is a glycoprotein with exposed N-acetyl- β -D-glucosaminyl groups, (iii) P. marneffei stimulates the respiratory burst regardless of whether opsonins are present, and (iv) serum factors are required for P. marneffei to stimulate $TNF-\alpha$ release. The ability of unopsonized P. marneffei to parasitize mononuclear phagocytes without stimulating the production of $\text{TNF-}\alpha$ may be critical for the virulence of this intracellular parasite.

AN

1999:554591 HCAPLUS <<LOGINID::20071210>>

ĎΝ 131:285214

Interactions of Penicillium marneffei with human leukocytes in vitro TI

Rongrungruang, Yong; Levitz, Stuart M.

CS - The Evans Memorial Department of Clinical Research and the Department of Medicine, Boston University School of Medicine, Boston, MA, 02118, USA

Infection and Immunity (1999), 67(9), 4732-4736 SO CODEN: INFIBR; ISSN: 0019-9567

American Society for Microbiology PΒ

Journal DT

LΑ English

TT

THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD RE.CNT 51 ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d 129 1-7 ti YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS' - CONTINUE? (Y)/N:Y

- L29 ANSWER 1 OF 7 HCAPLUS COPYRIGHT 2007 ACS on STN Coniothyrium minitans β -(1,3) exoglucanase gene cbeGl
- L29 ANSWER 2 OF 7 HCAPLUS COPYRIGHT 2007 ACS on STN Clostridial neurotoxin targeted conjugates for inhibition of secretion ΤI
- from non-neuronal cells L29 ANSWER 3 OF 7 HCAPLUS COPYRIGHT 2007 ACS on STN
- ANSWER 4 OF 7 HCAPLUS COPYRIGHT 2007 ACS on STN L29
- The β -glucan-binding lectin site of mouse CR3 (CD11b/CD18) and its function in generating a primed state of the receptor that mediates cytotoxic activation in response to iC3b-opsonized target cells

Interactions of Penicillium marneffei with human leukocytes in vitro

- L29 ANSWER 5 OF 7 HCAPLUS COPYRIGHT 2007 ACS on STN
- TI Analysis of the sugar specificity and molecular location of the . beta.-glucan-binding lectin site of complement receptor type 3 (CD11b/CD18)
- L29 ANSWER 6 OF 7 HCAPLUS COPYRIGHT 2007 ACS on STN
- TI Specificity of membrane complement receptor type three (CR3) for $\beta\text{-glucans}$
- L29 ANSWER 7 OF 7 HCAPLUS COPYRIGHT 2007 ACS on STN
- TI Activation of human polymorphonuclear leukocytes by particulate zymosan is related to both its major carbohydrate components: glucan and mannan
- => d 15-17 ti abs bib
- 'L5-L7' IS NOT A VALID ACCESSION NUMBER
- 'TI' IS NOT A VALID ACCESSION NUMBER
- 'ABS' IS NOT A VALID ACCESSION NUMBER
- 'BIB' IS NOT A VALID ACCESSION NUMBER

The number entered is not a valid accession number in this file. Enter "HELP ACCESSION, at an arrow prompt (=>) for a list of valid accession number formats in the current file.

=> Y
Y IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).

=> d 129 5-7 ti abs bib
YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS' - CONTINUE? (Y)/N:y

L29 ANSWER 5 OF 7 HCAPLUS COPYRIGHT 2007 ACS on STN

TI Analysis of the sugar specificity and molecular location of the . beta.-glucan-binding lectin site of complement receptor type 3 (CD11b/CD18)

Zymosan, the cell wall from Saccharomyces cerevisiae, was reported to be a AB macrophage activator through its β -glycan over 30 yr ago. Nevertheless, the identity of the β -glucan receptor has been controversial. This study showed that the $\alpha M\beta 2$ -integrin, CR3 (Mac-1, CD11b/CD18) served as the . beta.-glucan receptor through one or more lectin sites located outside of the CD11b I-domain that contains the binding sites for iC3b, ICAM-1, and fibrinogen. Sugar specificity, analyzed with FITC-labeled soluble polysaccharides and flow cytometry, showed CR3-specific staining with several pure $\beta\text{-glucans}$ but not with $\alpha\text{-mannan}.$ However, a 10-kDa soluble zymosan polysaccharide (SZP) with high affinity (6.7+10-8M) for CR3 consisted largely of mannose and .apprx.5% glucose. Binding of either SZP-FITC or β -glucan -FITC to CR3 was blocked not only by pure β -glucans from yeast, mushroom, seaweed, or barley, but also by N-acetyl-D-glucosamine (NADG), α - or β -methylmannoside, and α - or β -methylglucoside. SZP-FITC and β -glucan -FITC stained all leukocyte types similarly to anti-CR3-FITC, and polysaccharide-FITC staining was inhibited ≥95% by unlabeled anti-CR3. SZP-FITC staining of cells expressing recombinant chimeras between CR3 and CR4 (p150,95, CD11c/CD18) suggested that both the divalent cation-binding region of CD11b and the region C-terminal to it may regulate binding of polysaccharides to CR3. Unlabeled SZP or . beta.-glucan also blocked CR3 staining by 11 mAb to C-terminal domain epitopes of CD11b but had no effect on staining by mAb

directed to the 1-domain. In conclusion, CR3 serves as the leukocyte . beta.-glucan receptor through a cation-independent lectin site located C-terminal to the 1-domain of CD11b. Its sugar specificity is broader than originally appreciated, allowing it to react with certain polysaccharides containing mannose or NADG, as well as glucose.

AN 1996:63811 HCAPLUS <<LOGINID::20071210>>

DN 124:114996

- TI Analysis of the sugar specificity and molecular location of the . beta.-glucan-binding lectin site of complement receptor type 3 (CD11b/CD18)
- AU Thornton, Brian P.; Vetvicka, Vaclav; Pitman, Mark; Goldman, Robert C.; Ross, Gordon D.
- CS Dep. Pathol., Univ. Louisville, Louisville, KY, 40292, USA
- SO Journal of Immunology (1996), 156(3), 1235-46 CODEN: JOIMA3; ISSN: 0022-1767
- PB American Association of Immunologists
- DT Journal
- LA English
- L29 ANSWER 6 OF 7 HCAPLUS COPYRIGHT 2007 ACS on STN
- Specificity of membrane complement receptor type three (CR3) for β -glucans
- The binding of the iC3b receptor (CR3) to unopsonized zymosan resulted AB from CR3 attachment to cell wall β -glucans. A specificity of neutrophil responses for $\boldsymbol{\beta}$ -glucan was first suggested by a comparison of yeast (Saccharomyces cerevisiae) cell wall components for stimulation of a neutrophil superoxide burst. Three types of expts. demonstrated a role for CR3 in these responses. First, neutrophil ingestion of either yeast or yeast-derived β glucan particles was blocked by monoclonal anti-CR3, fluid-phase iC3b, or soluble β -glucan from barley. Monocyte ingestion of $\boldsymbol{\beta}$ -glucan particles was also blocked-by-anti-CR3, but not by-anti-CR1 or anti-C3. Second, the neutrophil superoxide burst response to either zymosan or .beta .-glucan particles was blocked by anti-CR3 or fluid-phase iC3b, and was completely absent with neutrophils from 3 patients with an inherited deficiency of CR3. Third, CR3 was isolated from solubilized neutrophils by affinity chromatog. on $\boldsymbol{\beta}$ -glucan -Sepharose.

AN 1987:552442 HCAPLUS <<LOGINID::20071210>>

DN 107:152442

- TI Specificity of membrane complement receptor type three (CR3) for β -glucans
- AU Ross, Gordon D.; Cain, Judith A.; Myones, Barry L.; Newman, Simon L.; Lachmann, Peter J.
- CS Dep. Med., Univ. North Carolina, Chapel Hill, NC, 27514, USA
- SO Complement (1987), 4(2), 61-74 CODEN: CMPLDF; ISSN: 0253-5076
- DT Journal
- LA English
- L29 ANSWER 7 OF 7 HCAPLUS COPYRIGHT 2007 ACS on STN
- TI Activation of human polymorphonuclear leukocytes by particulate zymosan is related to both its major carbohydrate components: glucan and mannan
- Unopsonized particulate zymosan and its major carbohydrate component glucan were phagocytosed under serum-free conditions by adherent polymorphonuclear leukocytes (PMN) in a dose- and time-dependent manner. Preincubation of PMN monolayers with mannan did not cause a reduction in the phagocytosis of either particle. The phagocytic response was inhibited by preincubation of the cells with trypsin at a concentration that did not inhibit the phagocytosis of sheep erythrocytes coated with IgG or of latex particles. Homol. of the recognition mechanisms for glucan and zymosan was confirmed when cells cultured on fixed glucan or on fixed zymosan failed to ingest either particle to more than 40% of control phagocytosis.

Similarly, zymosan and glucan activated PMN in suspension, in a dose- and time-dependent manner, to generate reactive O species which were measured as luminol-dependent chemiluminescence (CL). There was however, a 4-fold greater CL response to zymosan. Preincubation of PMN with mannan resulted in a decreased CL response to zymosan, while the response to glucan was unaffected. The CL response was also sensitive to a range of concns. of trypsin. In contrast, 2 other complex polysaccharide particles (barley-derived β -glucan and algae-derived laminarin) were not phagocytosed by PMN, nor did they cause the generation of CL, despite the fact that they possessed the capacity, in common with zymosan and glucan, to activate the alternative pathway of complement. The identification of a trypsin-sensitive recognition mechanism on the surface of human PMN for unopsonized zymosan and glucan represents a response not hitherto characterized. Furthermore, the phagocytosis of unopsonized zymosan by human PMN is dependent primarily on its glucan content, but its capacity to activate the respiratory burst may involve mannan and the recruitment of a second cell surface recognition mechanism. 1986:404970 HCAPLUS <<LOGINID::20071210>> 105:4970 Activation of human polymorphonuclear leukocytes by particulate zymosan is related to both its major carbohydrate components: glucan and mannan Williams, J. D.; Topley, N.; Alobaidi, H. M.; Harber, M. J. KRUF Inst., R. Infirm., Cardiff, UK Immunology (1986), 58(1), 117-24 CODEN: IMMUAM; ISSN: 0019-2805 Journal English

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(FILE 'HOME' ENTERED AT 16:02:28 ON 10 DEC 2007)

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L1
          71149 S COMPLEMENT
L2
L3
         363997 S ANTIBODY OR MONOCLONAL
          52754 S BARLEY
L4
            146 S L1 AND L2
L5
              9 S L1 AND L2 AND L4
L6
L7
            210 S L1 AND L3
             17 S L1 AND L3 AND L4 .
L8
             48 S L1 AND L2 AND L3
L9
              4 S L1 AND L2 AND L3 AND L4
L10
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        795839 S (CANCER OR TUMOR OR NEOPLAS?)
L15
L16
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             1 S L15 AND L11
L17
             57 S L15 AND L7
L18
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L19
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L20
L21
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L22
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     FILE 'STNGUIDE' ENTERED AT 16:19:16 ON 10 DEC 2007
    FILE 'HCAPLUS' ENTERED AT 17:08:53 ON 10 DEC 2007
        191167 S BARLEY OR OAT OR WHEAT OR MOSS
L24
L25
             11 S L24 AND L1 AND L2
              5 S L24 AND L1 AND L2 AND L15
L26
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L28
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FILE 'STNGUIDE' ENTERED AT 17:11:03 ON 10 DEC 2007

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LAST RELOADED: Dec 7, 2007 (20071207/UP).

=> d 134 1-9 ti YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS' - CONTINUE? (Y)/N:y

- L34 ANSWER 1 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN
- TI Clostridial neurotoxin targeted conjugates for inhibition of secretion from non-neuronal cells
- L34 ANSWER 2 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN
- TI Nonopsonic phagocytosis of zymosan and Mycobacterium kansasii by CR3 (CDllb/CDl8) involves distinct molecular determinants and is or is not coupled with NADPH oxidase activation
- L34 ANSWER 3 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN
- TI Inhibition of interleukin-12 production using ligands for CD46 or complement receptor CR3
- L34 ANSWER 4 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN
- TI Contribution of CR3 to nitric oxide production from macrophages stimulated with high-dose of LPS
- L34 ANSWER 5 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN
- TI Activation, binding, and processing of complement component 3 (C3) by Blastomyces dermatitidis
- L34 ANSWER 6 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN
- TI The function of human NK cells is enhanced by β -glucan, a ligand of CR3 (CD11b/CD18)
- L34 ANSWER 7 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN
- TI Role of complement receptor type three and serum opsonins in the neutrophil response to yeast
- L34 ANSWER 8 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN
- TI Specificity of membrane complement receptor type three (CR3) for β -glucans

L34 ANSWER 9 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN Role of the adherence-promoting receptors, CR3, LFA-1, and TI p150,95, in binding of Histoplasma capsulatum by human macrophages

=> d 134 d 134 4 6 7 8 9 ti abs bib L34 IS NOT VALID HERE For an explanation, enter "HELP DISPLAY".

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=> d 134 4 6 7 8 9 ti abs bib YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS' - CONTINUE? (Y)/N:y

L34 ANSWER 4 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN Contribution of CR3 to nitric oxide production from macrophages stimulated with high-dose of LPS

The contribution of the complement receptor type 3 (CR3 AB) to nitric oxide (NO) production from macrophages stimulated by LPS was investigated. When thioglycollate-elicited mouse peritoneal macrophages were stimulated with a high dose of LPS (10 $\mu g/mL$) in both the presence and absence of fetal calf serum, a source of LPS binding protein (LBP) necessary for the binding of LPS to CD14, NO production was observed These findings suggest that CD14-dependent and CD14-independent signaling pathways for NO production are present in macrophages. Because binding and phagocytosis-of-bacteria by macrophages through the CR3 has been previously reported, we investigated whether the CR3 acts in CD14-independent signaling pathway for NO production By flow cytometric anal., the binding of FITC-labeled anti-CR3 monoclonal antibody (anti-CR3 mAb) to macrophages was inhibited by LPS. Anti-CR3 mAb induced iNOS protein and produced NO in a dose dependent manner. Further, NO production induced by anti-CR3 mAb was also inhibited by zymocel, β -glucan with a high affinity to CR3. These results suggest that the CR3 mol. acts in a CD14-independent signaling pathway, and contributes to NO production by macrophages stimulated with high doses of LPS.

1998:174595 HCAPLUS <<LOGINID::20071210>> ΝA

128:307329 DN

Contribution of CR3 to nitric oxide production from macrophages stimulated with high-dose of LPS

Matsuno, Ryozo; Aramaki, Yukihiko; Arima, Hidetoshi; Adachi, Yoshiyuki; AU Ohno, Naohito; Yadomae, Toshiro; Tsuchiya, Seishi

School of Pharmacy, Tokyo University of Pharmacy and Life Science, Tokyo, CS 192-03, Japan

Biochemical and Biophysical Research Communications (1998), SO 244(1), 115-119

CODEN: BBRCA9; ISSN: 0006-291X

PB Academic Press

DTJournal

English

THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD RE.CNT 26 ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 6 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN

The function of human NK cells is enhanced by β glucan, a ligand of CR3 (CD11b/CD18)

Cells responsible for the natural killer (NK) effect in human blood can be

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collected in the low-d. lymphocyte subset and the majority of them express
      the CR3 complement receptor. In addition to the iC3b
      binding site, the CR3 mols. possess an epitope which binds .
      beta.-glucan. Ligands of this site can deliver
      activation signals to CR3-carrying monocytes and neutrophils.
      The function of NK cells was also potentiated by preincubation with .
      beta.-glucan. The treatment increased the proportion of
      target-binding lymphocytes and of the damaged target cells in the
      conjugates. The monoclonal antibody OKM-1, directed
      to the \beta -glucan-binding site of CR3,
      abrogated this effect. Another CR3-reactive monoclonal
      antibody, M522, known to activate monocytes and neutrophils,
      enhanced the NK function.
      1991:605839 HCAPLUS <<LOGINID::20071210>>
      115:205839
      The function of human NK cells is enhanced by \beta -
      glucan, a ligand of CR3 (CD11b/CD18)
      Di Renzo, Livia; Yefenof, Eitan; Klein, Eva
     Dep. Tumor Biol., Karolinska Inst., Stockholm, S-104 01, Swed.
 CS .
      European Journal of Immunology (1991), 21(7), 1755-8
      CODEN: EJIMAF; ISSN: 0014-2980
vgDT.JJournal
                                                                         English
      ANSWER 7 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN
      Role of complement receptor type three and serum opsonins in the
      neutrophil response to yeast
      Neutrophil complement receptor type 3 (CR3) was shown
      to play a major role in the phagocytic and respiratory burst response to
      serum-opsonized yeast (OY). The neutrophil response to OY was greatly
      reduced by monoclonal anti-CR3, and when Y was
      opsonized with purified complement components instead of serum,
      YC3b(i)_stimulated_neutrophil_responses_of_a_similar_magnitude_to_OY. The
      mechanism of the neutrophil response to OY apparently involves 3 stages:
      (1) high-avidity binding of particles via fixed iC3b and iC3b binding site
      of CR3, (2) low-avidity binding of glucan sugars in the Y cell
      wall to the \beta -glucan binding site of CR3
      , and (3) stimulation of ingestion and a respiratory burst via the .
      beta.-glucan binding site of CR3. Only minor
      contributions of CR1 and Fc receptors could be demonstrated, despite the
      presence of fixed C3b and IgG on the OY.
      1987:573918 HCAPLUS <<LOGINID::20071210>>
      107:173918
      Role of complement receptor type three and serum opsonins in the
      neutrophil response to yeast
      Cain, Judith A.; Newman, Simon L.; Ross, Gordon D.
      Dep. Med., Univ. North Carolina, Chapel Hill, NC, 27514, USA
      Complement (1987), 4(2), 75-86
      CODEN: CMPLDF; ISSN: 0253-5076
      Journal
      English
      ANSWER 8 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN
      Specificity of membrane complement receptor type three (
      CR3) for \beta-glucans
      The binding of the iC3b receptor (CR3) to unopsonized zymosan
      resulted from CR3 attachment to cell wall \beta-glucans. A
      specificity of neutrophil responses for \boldsymbol{\beta} -glucan
      was first suggested by a comparison of yeast (Saccharomyces cerevisiae)
      cell wall components for stimulation of a neutrophil superoxide burst.
      Three types of expts. demonstrated a role for CR3 in these
      responses. First, neutrophil ingestion of either yeast or yeast-derived .
      beta.-glucan particles was blocked by monoclonal
      anti-CR3, fluid-phase iC3b, or soluble \beta -
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glucan from barley. Monocyte indestion of β glucan particles was also blocked by anti-CR3, but not by anti-CR1 or anti-C3. Second, the neutrophil superoxide burst response to either zymosan or β -glucan particles was blocked by anti-CR3 or fluid-phase iC3b, and was completely absent with neutrophils from 3 patients with an inherited deficiency of CR3. Third, CR3 was isolated from solubilized neutrophils by affinity chromatog. on β -glucan -Sepharose. 1987:552442 HCAPLUS <<LOGINID::20071210>> 107:152442 Specificity of membrane complement receptor type three (CR3) for \(\beta\)-glucans Ross, Gordon D.; Cain, Judith A.; Myones, Barry L.; Newman, Simon L.; Lachmann, Peter J. Dep. Med., Univ. North Carolina, Chapel Hill, NC, 27514, USA Complement (1987), 4(2), 61-74 CODEN: CMPLDF; ISSN: 0253-5076 Journal English ANSWER 9 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN -s. : Role of the adherence-promoting receptors, CR3, LFA-1, and p150,95, in binding of Histoplasma capsulatum by human macrophages The principal host cell of H. capsulatum (Hc) is the macrophage (M.vphi.) within which the pathogenic yeast phase of the fungus multiplies during active disease. The major receptor mechanism that mediates the attachment of unopsonized Hc yeasts to human monocyte-derived M.vphi. from peripheral blood was identified. Binding of Hc yeasts by M.vphi. is rapid, temperature-dependent, and requires both Ca and Mg ions for optimum activity. Recognition of Hc yeasts does not require Fc receptors, mannosyl/fucosyl receptors, β -glucan receptors, or secretion of complement C3 by M.vphi. Studies were performed on the effect of down-regulating specific receptors of the CR3/LFA-1/p150,95 adherence-promoting protein family from the apical portion of M.vphi. to determine the effects upon binding of Hc yeasts. Anti- β chain monoclonal antibodies that recognize all 3 of these proteins blocked binding of yeasts. However, removal of individual receptors with antibodies against the α polypeptides caused negligible depression of binding, and removal of any pair caused only modest depression. each of the members of the CR3/LFA-1/p150,95 family is independently capable of binding Hc. 1987:82904 HCAPLUS <<LOGINID::20071210>> 106:82904 Role of the adherence-promoting receptors, CR3, LFA-1, and

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- TI p150,95, in binding of Histoplasma capsulatum by human macrophages
- Bullock, Ward E.; Wright, Samuel D. ΑU
- Lab. Cell. Physiol. Immunol., Rockefeller Univ., New York, NY, 10021, USA CS
- Journal of Experimental Medicine (1987), 165(1), 195-210 SO CODEN: JEMEAV; ISSN: 0022-1007
- DTJournal
- LA English